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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/814,722	03/31/2004	David Joseph Najewicz	135091-1/YOD GERD:0111	9857
41838	7590	05/08/2008	EXAMINER	
GENERAL ELECTRIC COMPANY (PCPI) C/O FLETCHER YODER P. O. BOX 692289 HOUSTON, TX 77269-2289			COCKS, JOSIAH C	
		ART UNIT	PAPER NUMBER	
		BPAI		
		MAIL DATE		DELIVERY MODE
		05/08/2008		PAPER

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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte DAVID JOSEPH NAJEWICZ,
JOELL RANDOLPH HIBSHMAN II, and
VENKATRAMAN ANANTHAKRISHNAN IYER

Appeal 2008-0555
Application 10/814,722
Technology Center 3700

Decided: May 7, 2008

Before WILLIAM F. PATE, III, LINDA E. HORNER, and ANTON W. FETTING, *Administrative Patent Judges*.

HORNER, *Administrative Patent Judge*.

DECISION ON APPEAL

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David Joseph Najewicz et al. (Appellants) seek our review under 35 U.S.C. § 134 of the final rejection of claims 1-39. We have jurisdiction under 35 U.S.C. § 6(b) (2002). We reverse.

The Appellants' claimed invention is enhancement of burner performance of a gas range system for a cooking appliance (Spec. 1: ¶0001). Claim 1, reproduced below, is representative of the subject matter on appeal.

1. An enhanced gas range system comprising:
 - a pressure regulator adapted to regulate a gas flow from a gas feed line;
 - a gas fuel boost pump disposed downstream of the pressure regulator and adapted to increase pressure of the gas flow received from the gas feed line;
 - and a gas burner disposed to receive the gas flow from the gas fuel boost pump.

The Examiner relies upon the following as evidence of unpatentability:

Schaupert	US 5,024,209	Jun. 18, 1991
Smith	US 5,795,998	Aug. 18, 1998
Adams	US 6,178,997 B1	Jan. 30, 2001
Rothenberger	US 6,297,108 B1	Sep. 11, 2001

The following rejections are before us for review:

1. Claims 1-4, 6-9, 11-14, 16-20, and 22-39 are rejected under 35 U.S.C. § 103(a) as unpatentable over Rothenberger and Adams.
2. Claims 5 and 15 are rejected under 35 U.S.C. § 103(a) as unpatentable over Rothenberger, Adams, and Smith.

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3. Claims 10 and 21 are rejected under 35 U.S.C. § 103(a) as unpatentable over Rothenberger, Adams, and Schaupert.

The issue before us is whether the Appellants have shown that the Examiner erred in rejecting under 35 U.S.C. § 103(a) claims 1-4, 6-9, 11-14, 16-20, and 22-39 as unpatentable over Rothenberger and Adams, claims 5 and 15 as unpatentable over Rothenberger, Adams, and Smith, and claims 10 and 21 as unpatentable over Rothenberger, Adams, and Schaupert. This issue turns on whether the combination of Rothenberger and Adams would have led one having ordinary skill in the art to the claimed system containing a gas fuel boost pump disposed downstream of the pressure regulator and the claimed method including the step of actively increasing pressure of a gas flow through a gas feed line via a gas fuel boost pump disposed downstream of a pressure regulator coupled to the gas feed line.

In rejecting claims under 35 U.S.C. § 103(a), the examiner bears the initial burden of establishing a *prima facie* case of obviousness. *In re Oetiker*, 977 F.2d 1443, 1445 (Fed. Cir. 1992); *see also In re Piasecki*, 745 F.2d 1468, 1472 (Fed. Cir. 1984). Only if this initial burden is met does the burden of coming forward with evidence or argument shift to the appellant. *See Oetiker*, 977 F.2d at 1445; *see also Piasecki*, 745 F.2d at 1472. Obviousness is then determined on the basis of the evidence as a whole and the relative persuasiveness of the arguments. *Id.*

Rothenberger discloses a method of setting the volumetric gas flow fed through a gas feed line to a burner nozzle of a gas-operated cooking

appliance required for a desired burner heat output (Rothenberger, col. 1, ll. 7-10). In particular, Rothenberger discloses a burner 1 fitted into a gas stove and a nozzle 2 connected to a gas feed line 3. A gas valve 4 is arranged in the gas feed line 3 to vary a volumetric gas flow fed to the burner nozzle 2 (Rothenberger, col. 6, ll. 25-31; Fig. 1). Rothenberger's valve 4 is opened or closed by an actuator 9, which is controlled by a controller 7 (Rothenberger, col. 6, ll. 56-63). Rothenberger does not disclose a gas fuel boost pump disposed downstream of a pressure regulator and adapted to increase pressure of the gas flow received from the gas feed line, as recited in independent claims 1, 11, and 34, nor does Rothenberger disclose the step of actively increasing pressure of a gas flow through a gas feed line via a gas fuel boost pump disposed downstream of a pressure regulator coupled to the gas feed line, as recited in independent claims 22 and 29.

Adams teaches that pressure regulators are used for pressure control in fluid distribution applications and the process industries to maintain a desired, reduced outlet pressure while providing the required fluid flow to satisfy a variable downstream demand (Adams, col. 1, ll. 34-38). Adams discloses that a conventional pressure-reducing, pilot-operated regulator 23 includes a pilot 24 (also called a relay, amplifier, or multiplier) disposed downstream of a regulator 11 (Adams, col. 2, ll. 21-27; Fig. 2A). The pilot 24 amplifies the pressure differential across the main regulator diaphragm 18 to control downstream fluid pressure (Adams, col. 2, ll. 41-44). Adams does not disclose a gas fuel boost pump disposed downstream of a pressure

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regulator and adapted to increase pressure of the gas flow received from the gas feed line, nor does Adams disclose the step of actively increasing pressure of a gas flow through a gas feed line via a gas fuel boost pump disposed downstream of a pressure regulator coupled to the gas feed line. In particular, Adams's pilot 24 is not a gas fuel boost pump.

The Examiner found that Adams teaches that it is well known in the art that a valve may be substituted with a variable speed pump located at the end of a process control loop and thus such a substitution for the valve in Rothenberger would result in a gas fuel boost pump located downstream of a pressure regulator (Ans. 5). We disagree with the Examiner's application of the teaching of Adams to the system of Rothenberger. Adams teaches that the last control element in a process control loop could be a valve, a variable speed drive, or a pump (Adams, col. 1, ll. 27-30). If one having ordinary skill in the art were to apply the teaching of Adams to the system of Rothenberger, then the valve 4 of Rothenberger's process control loop may be replaced with a variable speed drive or a pump. This would result in a pump being used instead of the valve and would still not meet the claimed combination of a gas fuel boost pump located downstream of a pressure regulator.

The Examiner also found that Adams describes certain advantages that pressure regulators have over other control devices and concluded that one having ordinary skill in the art would reasonably understand that a pressure regulator assembly, as taught in Fig. 2A of Adams, could be

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substituted for the control system with valve 4 of Rothenberger to desirably control distribution of fluid in a relatively inexpensive manner via a device that does not require an external power source, and is a self-contained package (Ans. 8-9). We disagree.

If one were to replace the control system of Rothenberger with the regulator system disclosed in Figure 2A of Adams, the combination would still not meet the claim, because as we found *supra*, the embodiment of Figure 2A does not disclose a gas fuel boost pump. In order to meet the claimed invention, one of ordinary skill in the art would have had to have been led to replace the control system of Rothenberger with the pilot regulator 23 of Adams, and then replace Adams's pilot 24 with a gas fuel boost pump. We see no reason why one would have been led to make such a modification absent hindsight. On the contrary, Adams teaches that pressure regulators have many advantages over other control devices (e.g., they are relatively inexpensive and do not require an external power source) (Adams, col. 2, ll. 46-49). Thus, we see no reason why one would have been led to replace Adams's pilot with a pump in a self-contained pressure regulator. As such, we do not sustain the Examiner rejection of independent claims 1, 11, 22, 29, and 34, or their corresponding dependent claims 2-4, 6-9, 12-14, 16-20, 23-28, 30-33, and 35-39, as unpatentable over Rothenberger and Adams.

The Examiner relied on Smith, in the rejection of claims 5 and 15, to teach that "fuel may be pumped via a variable displacement pump" (Ans. 6).

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The Examiner relied on Schaupert in the rejection of claims 10 and 21 to teach that “each gas burner of a cooking appliance includes a throttling valve” (Ans. 7). The Examiner does not rely on Smith or Schaupert for the disclosure of a gas fuel boost pump disposed downstream of a pressure regulator. As such, the Examiner has failed to set forth a *prima facie* case of obviousness of claims 5, 10, 15, and 21. We decline to sustain the rejections of these claims.

We conclude that the Appellants have shown the Examiner erred in rejecting under 35 U.S.C. § 103(a) claims 1-4, 6-9, 11-14, 16-20, and 22-39 as unpatentable over Rothenberger and Adams, claims 5 and 15 as unpatentable over Rothenberger, Adams, and Smith, and claims 10 and 21 as unpatentable over Rothenberger, Adams, and Schaupert. The decision of the Examiner to reject claims 1-39 is reversed.

REVERSED

JRG

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